

10/517177

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

07 DEC 2004

(43) International Publication Date
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number
WO 03/104767 A2(51) International Patent Classification⁷:

G01N

(72) Inventor; and

(75) Inventor/Applicant (for US only): KOSTEREV, Anatoliy, A. [US/US]; 2003 McClelland Street, Apt. 4, Houston, TX 77030 (US).

(21) International Application Number: PCT/US03/18299

(22) International Filing Date: 10 June 2003 (10.06.2003)

(74) Agents: WATKINS, Marcella, D. et al.; Conley Rose, P.C., P.O. Box 3267, Houston, TX 77253-3267 (US).

(25) Filing Language:

English

(81) Designated State (national): US.

(26) Publication Language:

English

(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(30) Priority Data:

60/387,488

10 June 2002 (10.06.2002) US

60/389,580

18 June 2002 (18.06.2002) US

Published:

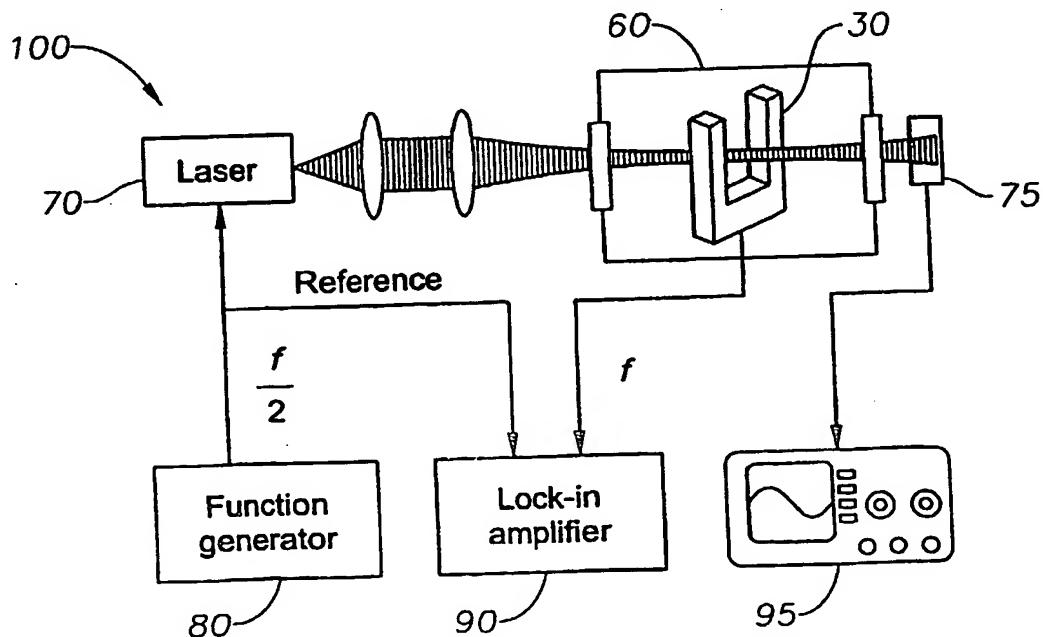
— without international search report and to be republished upon receipt of that report

(71) Applicant (for all designated States except US):
WILLIAM MARSH RICE UNIVERSITY [US/US];
6100 Main Street, Houston, TX 77005 (US).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(54) Title: QUARTZ-ENHANCED PHOTOACOUSTIC SPECTROSCOPY



WO 03/104767 A2

(57) Abstract: Methods and apparatus for detecting photoacoustic signals in fluid media are described. The present invention differs from conventional photoacoustic spectroscopy in that rather than accumulating the absorbed energy in the fluid of a sample cell, the absorbed energy is accumulated in an acoustic detector or sensitive element. In a preferred embodiment, the acoustic detector comprises piezoelectric crystal quartz. The quartz is preferably in the shape of a tuning fork.